

### **REMARKS**

Prior to entry of this paper, Claims 1-34 were pending. Claims 1-34 were rejected. No amendments are made in this paper. Claims 1-34 are currently pending. For at least the following reasons, Applicant respectfully submits that each of the presently pending claims is in condition for allowance.

### **Claims 1-34**

Claims 1-34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsumura (U.S. Patent Publication No. 2004/0174206) hereafter “Matsumura” in view of La Rosa (U.S. Patent No. 6,897,689) hereafter “La Rosa”. Each of these rejections is respectfully traversed.

First, Claim 1 is respectfully submitted to be allowable at least because neither Matsumura nor La Rosa, singly or in combination, discloses, teaches, or suggests, “the hysteresis-and-output sensor circuit is arranged to disable a hysteresis at power up”, as recited in Applicant’s Claim 1.

The circuit of Matsumura discusses a voltage detecting circuit for detecting a specific voltage that is capable of adjusting a hysteresis voltage. However, it is respectfully submitted that the circuit of Matsumura fails to teach a hysteresis-and-output sensor circuit is arranged to **disable a hysteresis at power up**. Further, it is respectfully submitted that the circuit of La Rosa fails to cure the deficiency of Matsumura. The circuit of La Rosa is a programmable POR circuit with two switching thresholds. Even if the POR circuit of La Rosa were used in Matsumura, the circuit of Matsumura still would not disable POR at power-up. There is no apparent reason or suggestion that the hysteresis would be based on power-up in any way. Accordingly, even if the circuit of Matsumura incorporated the POR of Matsumura, the combination would still fail to disable hysteresis at power up.

Essentially, it is respectfully submitted that the Office has cited a circuit with adjustable hysteresis and a circuit that includes a POR circuit, and asserts that it would be obvious to combine the two to make the claims obvious because it would be obvious to include a POR in the circuit with adjustable hysteresis. However, even assuming arguendo that it would be obvious to include a POR circuit in Matsumura, that would not make it obvious to disable the hysteresis at power up. It is respectfully submitted that there is no apparent reason in the asserted references to modify the

circuit of Matsumura to disable the hysteresis at power up. Incorporating a POR circuit in Matsumura would not result in the circuit of Matsumura disabling hysteresis at power up.

Second, Claim 1 is respectfully submitted to be allowable at least because neither Matsumura nor La Rosa, singly or in combination, discloses, teaches, or suggests, “a gate circuit that is arranged to provide an output signal by gating a gate input signal subject to control by a gate control signal, wherein the gate input signal is based at least in part on the trigger signal, and wherein the gate control signal is based at least in part on the power-on-reset signal”, as recited in Applicant’s Claim 1.

Apparently, the Office’s contention is that, in the combination, the POR circuit of La Rosa would be incorporated into the circuit of Matsumura, and further that the POR signal would be used as the reset signal 52 in the circuit of FIG. 2 of Matsumura. However, there is simply no apparent reason, disclosure, teaching, or suggestion that reset signal 52 of FIG. 4 of Matsumura be substituted with a POR signal, from La Rosa or any POR signal at all. The Office Action states, “It would have obvious at the time the invention was made to a person of ordinary skill in the art to use the POR reset circuit of Rosa in the voltage detecting circuit for the purpose of incorporating a POR circuit into an integrated circuit that can receive different supply voltage.”

Even assuming *arguendo* that this is a reason to include the POR circuit of La Rosa in Matsumura, this would provide no apparent reason whatsoever to use the POR signal of La Rosa in place of the reset signal 52 of Matsumura. At most, the combination would use the POR circuit of La Rosa for the standard functionality of a POR circuit, but the POR signal would not be used in place of the reset signal 52 of Matsumura. Reset signal 52 of Matsumura is a reset signal, not a power-on reset signal. The two are not interchangeable, and the proposed replacement would change a principle of operation of the circuit of Matsumura.

As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 18, “The term ‘power on reset signal’ has a specific meaning to an engineer of ordinary competence in the field of analog circuit design, and is not arbitrary in meaning. To refer to any arbitrary signal as a ‘power on reset’ signal would not be considered reasonable to an engineer of ordinary competence in the field of analog circuit design.” It is respectfully submitted that the Office appears to be doing hindsight reconstruction based on the word “reset” and simply assumes,

in order to achieve hindsight reconstruction, that the reset signal 52 of Matsumura is interchangeable with the power on reset signal of La Rosa simply because they both contain the word “reset”. However, they are not interchangeable, and there is no apparent reason for the proposed substitution. The proposed substitution appears to be solely based on hindsight reconstruction based on the presence of the word “reset”, which is not an apparent reason for the proposed substitution.

Claims 2-12, 24, and 25 are respectfully submitted to be allowable at least because they depend from Claim 1.

Additionally, Claim 11 is respectfully submitted to be allowable at least because the proposed combination fails to meet the recitation, “the hysteresis-and-output-sensor circuit is configured to provide a hysteresis current to the resistor if the output signal corresponds to the second logic level”, as recited in Claim 11, in conjunction with the recitation, “the reference circuit includes: a resistor that is coupled to the hysteresis-and-output-sensor circuit and the comparator circuit; and a current source circuit that is configured to provide a current to the resistor”, as recited in Claim 10, from which Claim 11 depends. The Office Action states that component (5) of FIG. 1 of Matsumura is configured to provide a hysteresis current to the resistor in component (1) of FIG. 1 of Matsumura. However, Claim 10 recites that the resistor is in the reference circuit, and the resistor in component (1) of FIG. 1 of Matsumura is not in reference voltage circuit 2 of Matsumura.

Additionally, Claim 25 is respectfully submitted to be allowable at least because neither Matsumura nor La Rosa, singly or in combination, discloses, teaches, or suggests, “the hysteresis-and-output-sensor circuit is arranged to provide the hysteresis in a range of about 2°C to about 10°C of hysteresis for the temperature comparison when the hysteresis is enabled”, as recited in Applicant’s Claim 25. The proposed combination fails to teach temperature comparison, let alone temperature hysteresis, let alone temperature hysteresis in a range of about 2°C to about 10°C of hysteresis for the temperature comparison. The Office Action cites *In re Miller*. First, it is respectfully submitted that the Office mis-applies the *In re Miller* decision to an extreme degree. Second, the “working conditions” of Claim 25 are clearly not disclosed in the asserted prior art, since the asserted prior art has nothing to do with hysteresis of a temperature comparison. Third, no degree of optimization would modification the circuit of Matsumura to perform hysteresis in a range

of about 2°C to about 10°C of hysteresis for the temperature comparison, since Matsumura fails to perform temperature comparison or temperature hysteresis at all—therefore it cannot be optimized or adjusted to a workable range of a particular temperature range since a temperature range is not even applicable to the circuit of Matsumura.

Claim 13 is respectfully submitted to be allowable at least because none of the cited references, singly or in combination, teach any of the recitations of Claim 13.

First, none of the asserted references, singly or in combination, disclose, teach, or suggest, “employing a circuit to activate hysteresis if a temperature-sensing condition has occurred”. The Office asserts that component (5) of Matsumura activates hysteresis if a temperature-sensing is occurred. However, it is respectfully submitted that it is apparent that Matsumura does not disclose activating hysteresis if a temperature-sensing condition has occurred, or even perform any temperature sensing at all.

It is respectfully submitted that the Office has repeatedly attempted to meet the claim recitations based on circuits that do not perform temperature sensing at all. For example, previously, the Azimi circuit was asserted as performing a temperature sensing condition based on the assertion that a bandgap reference voltage is a temperature signal. As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 11, “An analog circuit engineer of reasonable competence could not reasonably construe the voltage at node 24 in Azimi, output by bandgap reference voltage 22, as a temperature sensor signal, even when the term ‘temperature sensor signal’ is construed as broadly as possible to one ordinary competence in the field of analog circuit design.” As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 13, “The circuit of Azimi does not activate hysteresis based on whether a temperature sensing condition of any type has occurred.” As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 15, “The comparator 27 of Azimi does not trip based on the temperature reaching a predetermined level. Furthermore, the comparison performed by comparator 27 of Azimi could not reasonably be construed as a temperature comparison.” As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 17, “Voltage Vin2 of Lin is not a temperature sensor signal.” As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 20, “The circuit

of Lim does not activate hysteresis based on whether a temperature sensing condition of any type has occurred.” As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 22, “In the circuit of Lim, the comparator OP20 tripping is not based on a temperature comparison, and is not based on the temperature reaching a predetermined level, but is instead based on whether Vin1 is high or low and on the hysteresis operation as illustrated in FIG. 5A-5E. The temperature could remain constant throughout the entire operation of the circuit of Lim, and comparator OP20 would still trip. A comparator that trips despite the temperature remaining constant throughout its operation could not reasonably be considered to be a temperature comparison under the broadest definition of the term ‘temperature comparison’ that would be considered reasonable to an engineer of ordinary competence in the field of analog circuit design.”

Although the declaration cited above discussed the Azimi and Lim references rather than the Matsumura reference, the same arguments apply to Matsumura. The circuit of Matsumura does not activate hysteresis based on whether or not a temperature sensing condition has occurred. Instead, the hysteresis is based on whether the detecting input voltage Vin is detected as a low voltage or a high voltage. The hysteresis is not based on whether or not a temperature condition has occurred, just as the Azimi and Lim references are not based on whether or not a temperature condition has occurred.

Second, none of the asserted references, singly or in combination, disclose, teach, or suggest, “ensuring that the hysteresis is automatically inactive when the circuit is powering up”.

Claims 14-19 and 26-34 are respectfully submitted to be allowable at least because they depend from Claim 13. Claim 20 is respectfully submitted to be allowable at least for reasons similar to those stated above with regard to Claim 13.

Additionally, Claim 32 is respectfully submitted to be allowable at least because the proposed combination fails to teach, “the temperature sensor signal is proportional to a temperature”. Input voltage Vin of Matsumura is not a temperature sensor signal, nor is it indicative of a temperature sensor signal, and it is respectfully submitted that it is absurd to assert that it is proportional to temperature. However, the Office simply asserts that it is with no support for the assertion. It is respectfully submitted that the burden is on the Office to make a prima facie

case that input voltage  $V_{in}$  is proportional to temperature. However, it is respectfully submitted that no prima facie case has been made, only a conclusory statement that it is.

Additionally, Claim 33 is respectfully submitted to be allowable at least because the proposed combination fails to teach, “the temperature-sensing condition is a temperature comparison in which a determination is made as to whether a temperature has reached a predetermined level”.

As stated in DECLARATION OF Perry Scott Lorenz UNDER 37 C.F.R. § 1.132, Declaration 22, “In the circuit of Lim, the comparator OP20 tripping is not based on a temperature comparison, and is not based on the temperature reaching a predetermined level, but is instead based on whether  $V_{in1}$  is high or low and on the hysteresis operation as illustrated in FIG. 5A-5E. The temperature could remain constant throughout the entire operation of the circuit of Lim, and comparator OP20 would still trip. A comparator that trips despite the temperature remaining constant throughout its operation could not reasonably be considered to be a temperature comparison under the broadest definition of the term ‘temperature comparison’ that would be considered reasonable to an engineer of ordinary competence in the field of analog circuit design.”

This declaration was made with regard to Lim, but the exact same argument applies with regard to Matsumura. The comparator 3 of Matsumura trips based on the detected voltage  $V_{in}$ . The temperature could remain constant throughout the entire operation of the circuit of Matsumura, and comparator 3 would still trip. A comparator that trips despite the temperature remaining constant throughout its operation could not reasonably be considered to be a temperature comparison under the broadest definition of the term “temperature comparison” that would be considered reasonable to an engineer of ordinary competence in the field of analog circuit design.

Additionally, Claim 26 is respectfully submitted to be allowable at least because the asserted art fails to teach, singly or in combination, “activating at least one of a fan or a heater when the output signal is asserted”, as recited in Applicants’ Claim 26.

The Office stated, “With respect to claim 26, this is deemed intended use, because no structural difference would be apparent.”

It is respectfully submitted that “structural difference” is irrelevant since claim 26 is a **method** claim. It can be argued that a functional statement of intended use in an apparatus claim

may be ignored as intended use on the basis that there is no structural difference between the claimed apparatus and the prior art. For example, as stated in case law previously quoted by the Office in this matter, “it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate *the claimed apparatus* from a prior art apparatus satisfying the claimed structural limitations.” (emphasis added). However, Claim 26 is a claimed method not a *claimed apparatus*. Because it is a claimed method, the recited elements of Claim 26 cannot be rejected on the basis of intended use. The recitations in claims 26 and 28-30 are claimed steps in a method, and not mere intended uses of a claimed apparatus. Accordingly, the Office Action’s assertions regarding “intended use” limitations not having patentable weight does not apply. An explicitly claimed step or act in a method claim cannot simply be ignored on the basis that the recited step or act is “intended use”. Rather, each act or step recited in the claim must be considered by the Office.

Further, it is respectfully submitted that Applicant’s representative has repeatedly pointed this fact out regarded “intended use” arguments regarding Claims 26 and 28-30 in previous responses. By making a repeated rejection Claim 26 and 28-30 on the basis of “intended use” while ignoring Applicant’s arguments that the recitations in claims 26 and 28-30 are claimed steps in a method, and not mere intended uses of a claimed apparatus, it is respectfully submitted that the Office fails to advance prosecution forward on those in claims in a meaningful manner. In fact, this moves prosecution backward since Claims 26 and 28-30 were previously identified as having allowable subject matter based on Applicant’s representative’s previous arguments that ignored claimed method steps or acts on the grounds that they are “intended use” is improper (See Office Action dated May 21, 2009).

Claim 22 is respectfully submitted to be allowable at least for reasons similar to those stated above with regard to Claim 1. Additionally, Claim 22 is respectfully submitted to be allowable at least because the proposed combination fails to teach, “a comparator circuit that is arranged to provide a trigger signal by comparing a reference signal to a temperature sensor signal”, as recited in Applicants’ Claim 22. As discussed in greater detail above, voltage  $V_{in}$  of Matsumura is not a temperature sensor signal.

Claim 22 is respectfully submitted to be allowable for at least the reasons stated above, and notice to that effect is earnestly solicited. Claims 21 and 23 are respectfully submitted to be allowable at least because they depend on Claim 22.

### **CONCLUSION**

It is respectfully submitted that each of the presently pending claims (Claims 1-34) is in condition for allowance and notification to that effect is requested. Examiner is invited to contact the Applicant's representative at the below-listed telephone number if it is believed that the prosecution of this application may be assisted thereby. Although only certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentable. Applicant reserves the right to raise these arguments in the future.

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Respectfully submitted,

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